

11.6 Properties of Chords

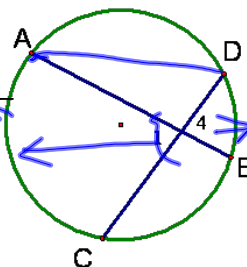
Part 1

Name the inscribed angles and their intercepted arcs.

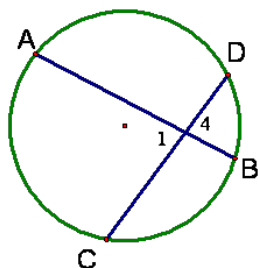
$$\frac{\angle A}{\angle D} = \frac{1}{2} \frac{\widehat{DB}}{\widehat{AC}}$$

$$m\angle 1 = \frac{m\angle D}{2} + \frac{m\angle A}{2}$$

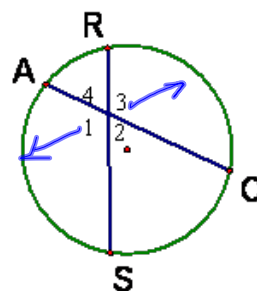
$$m\angle 1 = \frac{1}{2}(\widehat{AC} + \widehat{DB})$$



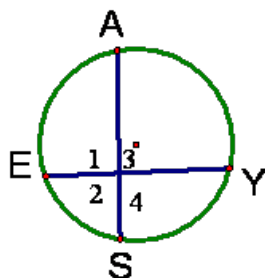
Theorem 11.10-If two chords intersect inside of a circle, then the measure of each angle formed is one half the sum of the measures of the intercepted arcs.



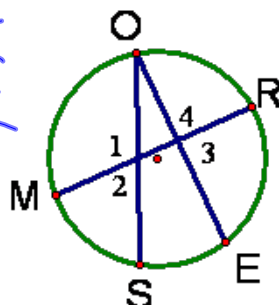
$$\begin{aligned} \angle 1 & \widehat{AS} \quad \widehat{RC} \\ \angle 2 & \widehat{SC} \quad \widehat{AR} \\ \angle 3 & \widehat{RC} \quad \widehat{AS} \\ \angle 4 & \widehat{RA} \quad \widehat{SC} \end{aligned}$$



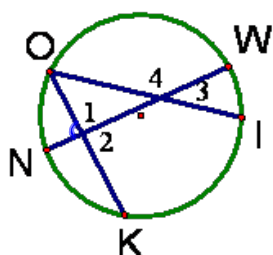
$$\begin{array}{l} \angle 1 \overbrace{EA} \quad \overbrace{SY} \\ \angle 2 \overbrace{AY} \quad \overbrace{ES} \\ \angle 3 \overbrace{ES} \quad \overbrace{AY} \\ \angle 4 \overbrace{EA} \quad \overbrace{SY} \end{array}$$



$$\begin{array}{l} \angle 1 \overbrace{OM} \quad \overbrace{SR} \\ \angle 2 \overbrace{MS} \quad \overbrace{OR} \\ \angle 3 \overbrace{MS} \quad \overbrace{OR} \\ \angle 4 \overbrace{OR} \quad \overbrace{ME} \end{array}$$

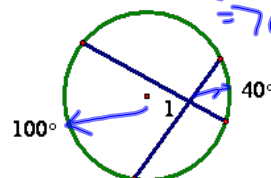


$$\begin{array}{l} \angle 1 \overbrace{KN} \quad \overbrace{OW} \\ \angle 2 \overbrace{WK} \quad \overbrace{ON} \\ \angle 3 \overbrace{WN} \quad \overbrace{OK} \\ \angle 4 \overbrace{OW} \quad \overbrace{NI} \end{array}$$

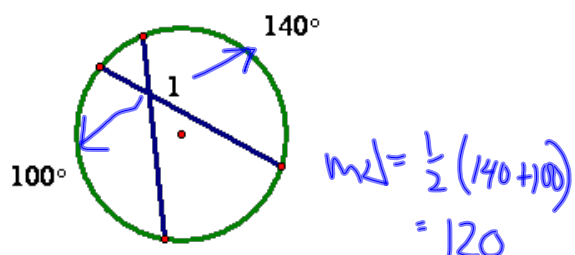


Find the measure of $\angle 1$.

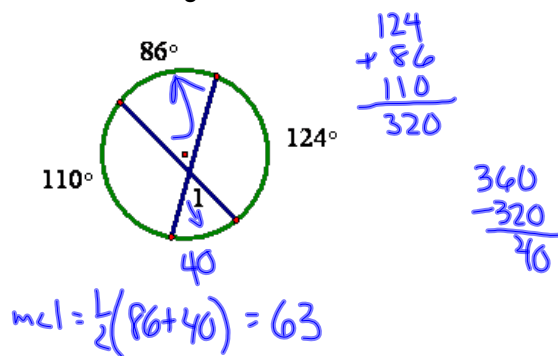
$$m\angle 1 = \frac{1}{2}(100 + 40) = 70^\circ$$



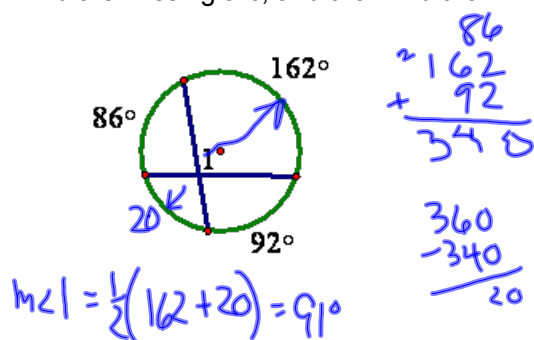
Find the measure of $\angle 1$.



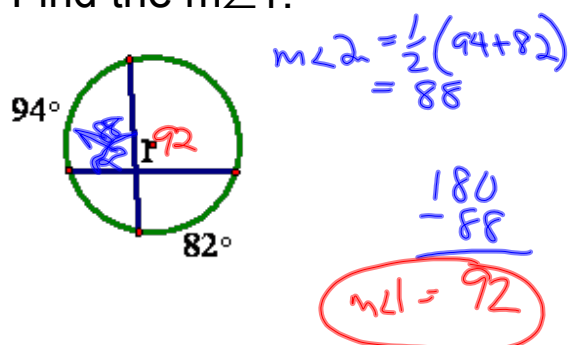
Find the missing arc, and then find the $m\angle 1$.

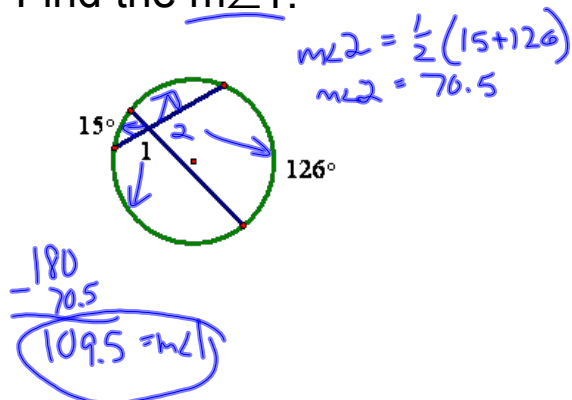


Find the missing arc, and then find the $m\angle 1$.

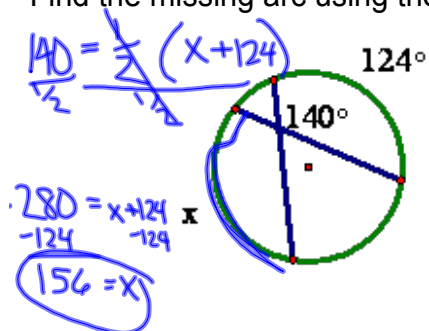


Find the $m\angle 1$.

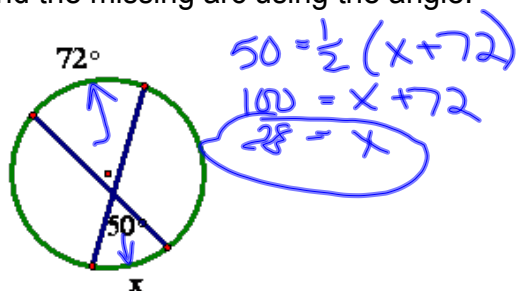


Find the $m\angle 1$.

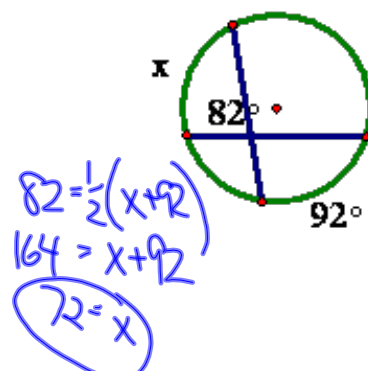
Find the missing arc using the angle.



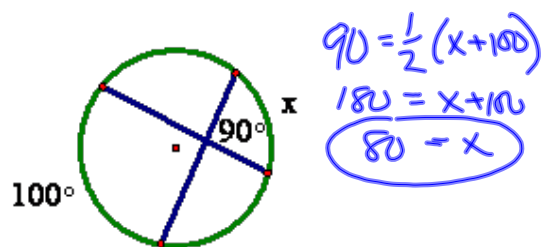
Find the missing arc using the angle.



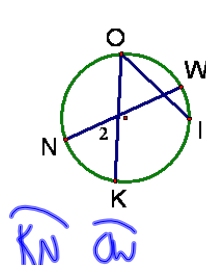
Find the missing arc using the angle.



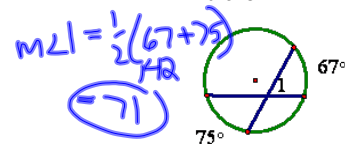
Find the missing arc using the angle.



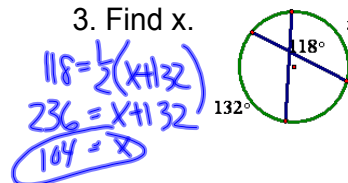
1. Name the intercepted arcs for $\angle 2$.



2. Find the $m\angle 1$.



3. Find x.



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2-4, 8-17, 23-25